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=> s 9068-38-6 (s) (mn or manganese)
   REGistRY INITIATED
Substance data SEARCH and crossover from CAS REGISTRY in progress...
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L2       12323 L1


        451777 MN
          5447 MNS
        454993 MN
                  (MN OR MNS)
        413054 MANGANESE
           113 MANGANESES
        413065 MANGANESE
                  (MANGANESE OR MANGANESES)
L3           9 L2 (S) (MN OR MANGANESE)


=> s L3 and (inhibit### or modulat### or increas### or decreas### or elevat###)
       2090897 INHIBIT###
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        411705 MODULAT###
       4604519 INCREAS###
       2568123 DECREAS###
        384482 ELEVAT###
L4           3 L3 AND (INHIBIT### OR MODULAT### OR INCREAS### OR DECREAS### OR
               ELEVAT###)

=> s L4 and py<2004
      24012945 PY<2004
L5           2 L4 AND PY<2004

=> d L5 ibib abs 1-2

L5   ANSWER 1 OF 2  CAPLUS  COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER:         2003:757875  CAPLUS <<LOGINID::20081204>>
DOCUMENT NUMBER:          139:272921
TITLE:                    Manganese ion regulation of reverse transcriptase
                          activity, methods of modulating reverse
                          transcriptase, and drug screening and therapeutic use
INVENTOR(S):              Boeke, Jef D.; Bolton, Eric C.
PATENT ASSIGNEE(S):       The Johns Hopkins University School of Medicine, USA
SOURCE:                   PCT Int. Appl., 61 pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.            KIND   DATE        APPLICATION NO.         DATE
     --------------        ----   --------    --------------------    --------
     WO 2003078650          A2    20030925    WO 2003-US7879          20030312 <--
     WO 2003078650          A3    20040311
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
             GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
             LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
             PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ,
             UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
             KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
             FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,
             BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
     AU 2003220277          A1    20030929    AU 2003-220277          20030312 <--
     US 20050123624         A1    20050609    US 2005-507252          20050128
PRIORITY APPLN. INFO.:                         US 2002-363708P     P   20020312
                                               WO 2003-US7879      W   20030312
AB   Methods of identifying agents that modulate reverse
     transcriptase activity in a cell by affecting manganese ion transport
     across a membrane of the cell are provided, as are agents identified using
     such methods.  High throughput screening assay for agents that alter
     manganese transporter activity is disclosed.  Also provided are methods of
     modulating reverse transcriptase activity by effecting manganese
     ion concentration  In addition, methods of reducing or inhibiting
     infection of cells with a retrotransposable element are provided.

L5   ANSWER 2 OF 2  CAPLUS  COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER:         2002:351336  CAPLUS <<LOGINID::20081204>>
DOCUMENT NUMBER:          137:75669
TITLE:                    Inhibition of reverse transcription in vivo
                          by elevated manganese ion concentration
AUTHOR(S):                Bolton, Eric C.; Mildvan, Albert S.; Boeke, Jef D.
```

CORPORATE SOURCE: Department of Molecular Biology and Genetics, The Johns Hopkins University School of Medicine, Baltimore, MD, 21205, USA
SOURCE: Molecular Cell (2002), 9(4), 879-889
CODEN: MOCEFL; ISSN: 1097-2765
PUBLISHER: Cell Press
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Mutations in PMR1, a yeast gene encoding a calcium/manganese exporter, dramatically decrease Ty1 retro-transposition. Ty1 cDNA is reduced in pmr1 mutant cells, despite normal levels of Ty1 RNA and proteins. The transposition defect results from Mn2+ accumulation that inhibits reverse transcription. Cytoplasmic accumulation of Mn2+ in pmr1 cells may directly affect reverse transcriptase (RT) activity. Trace amts. of Mn2+ potently inhibit Ty1 RT and HIV-1 RT in vitro when the preferred cation, Mg2+, is present. Both Mn2+ and Mg2- alone activate Ty1 RT cooperatively with Hill coeffs. of 2, providing kinetic evidence for a dual divalent cation requirement at the RT active site. We propose that occupancy of the B site is the major determinant of catalytic activity and that Mn2+ at this site greatly reduces catalytic activity.
REFERENCE COUNT: 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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